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Rear Services Support of Missile Troops in an Offensive Operation of a Front

by

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Nuclear weapons, missiles of various designations, and radio-electronic equipment are the basis of the further development of our Armed Forces. These means of combat, together with the mechanization of the Army and Navy, have altered the appearance of our Armed Forces and have given them new combat qualities.

In the troop composition of the Soviet Army there are large units and units armed with ballistic, antiaircraft, and other missiles of various designations. A front can have several missile large units and units of front and army subordination, armed with operational-tactical and antiaircraft missiles, and also subunits of tactical and antiaircraft missiles which are organizationally a part of the motorized-rifle and tank divisions.

The extensive equipping of troops with missile weapons and their leading role in the attainment of the goals of an operation bring forward completely new and very responsible tasks for the rear services, namely, the rear area support of missile troops. The fulfillment of this task is complicated by the fact that the demands of the front for missiles and missile fuel for an operation attain quite imposing dimensions. According to experience gained from exercises conducted, the expenditure of all types of missiles in an operation consisted of several thousand missiles, while the expenditure of missile fuel was several thousand tons, of which up to 70 percent were oxidizers--components of missile fuel which are extraordinarily dangerous during storage and transport.

It should be emphasized that the success of modern operations will now depend largely upon the uninterrupted delivery to the troops

of missiles, nuclear ammunition, and missile fuel, and also upon the timely assembly and preparation of missiles for firing. Therefore, the problems of rear area support of missile troops acquire exceptionally important significance. 50X1-HUM

As is generally known, primary and alternate siting areas are assigned to missile large units and units in a front offensive operation. They are located along the entire front zone and are echeloned to a great depth. The movement of missile units and large units in the course of an operation takes place, as a rule, by battalion or by battery, at various times, taking into consideration the tasks being fulfilled and the tempos of the troop offensive. The troop missile subunits move, for example, several times in a 24-hour period with jumps of 10 to 15 kilometers, army subunits once in a 24-hour period, and front subunits two or three times during the entire operation. Strictly on the basis of the features of dispersed disposition of missile units and the necessity of their frequent movement, it is necessary to organize the rear services and carry out rear area support of missile troops

In organizing rear area support for missile large units and units, it is also necessary to bear in mind that missiles, as regards their construction, weight, and overall dimensional characteristics, differ substantially from other types of ammunition, and their preparation for launching is involved with the execution of a number of preliminary tasks with regard to assembly, fueling, and testing. In connection with the great weight and overall dimensions of missiles, specially equipped rail, motor vehicle, and air transport, and also loading-unloading equipment with great hoisting capacity, are required for their transport.

The complexity of supplying the missile troops with missile fuel is explained by its special properties: toxic, aggressive, and hygroscopic. This makes it necessary to have special means of transportation, storage, and pumping of fuel. At the same time, the handling of missiles, special charges, and missile fuel requires an exceptionally high degree of training of personnel of rear services units and installations. 50X1-HUM

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It is quite understandable that the high combat readiness of the missile troops is ensured largely by a stable and sufficiently 50X1-HUM flexible system of supply. However, until recently, a fairly protracted period of probing and experimentation could be observed in this question. Thus, in accordance with existing procedure for assembly and preparation of missiles for firing, the following system of supply for missile troops was provided. It was proposed to have subunits for storage, servicing, and transport of missiles and special charges, and also workshops for the assembly of nuclear warheads, under the jurisdiction of the chief of front artillery armament. The missiles arriving at the front were unloaded at railroad stations and were delivered by motor vehicle transport of these subunits to front depots, and then to supply points, deployed in the axes of operations of the missile large units and units. From here, the missiles were brought by motor vehicle transport of the missile troops directly to their technical subunits, where the assembly, fueling, and preparation of the missiles for launching took place. Besides railroad and motor vehicle transport, it was also planned to use air transport for the transport of missiles and nuclear warheads.

For the supply of missile fuel to the missile troops at the front, there were dumps at the forward and rear area bases of the front. The transport of missile fuel from the rear area to the forward depots was carried out by rail transport or by motor vehicle transport (in case of disruption of the work of railroads). From the forward depots or from their sections, deployed over the terrain in the course of the operation, the missile fuel was delivered by the transport means of engineer battalions and antiaircraft missile units directly to their technical subunits.

As the experience of exercises showed, this system had substantial deficiencies. First, in connection with the fact that the assembly and preparation of missiles for firing--a process that is quite labor-consuming and requires the expenditure of large forces and means, the fulfillment of such tasks is very difficult./one or 50X1-HUM two words missing/ of units and large units. Secondly, three persons essentially were responsible for the delivery of missiles to the same level of supply: the deputy commander of troops of the front for rear services (rail and air transport), the chief of front

artillery armament (motor vehicle transport to the supply points), and the commanding officers of the units(motor vehicle transport to the technical subunits). Thirdly, the missile units broke off contact with the supply points and depots in the course of the operation which led to great strain in the work of missile unit transport. Besides, the system of support outlined greatly complicated the organization of coordination, communications, and rear area control, especially with regard to questions concerning the use of various types of transport for the delivery of missiles, special charges, and missile fuel. The complexity of coordinating these matters adversely affected the efficacy of the work of rear area units and establishments. Cases were noted during exercises, when missiles and missile fuel were delivered to the units at various times, which, in essence, did not ensure the timely combat readiness of the missile troops.

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Later, as missiles were improved, the possibility arose of carrying out the assembly and preparation of missiles--not in the technical subunits of missile units, as was done earlier, but in the rear area of the front. This circumstance made it possible, by a number of organizational measures, to improve the entire system of rear area support of missile troops. Technical subunits for the assembly of missiles, and also subunits for the storage and transport of them to the missile units and large units, were introduced into the composition of the front rear area. For convenience of operation, these subunits were integrated into missile technical bases, taking into consideration the specific peculiarities of the employment and preparation of operational-tactical (tactical) and antiaircraft missiles. While the former are used mainly with special charges, the latter are used mainly with conventional charges. Thus, there are two bases at the front: one for the preparation of operational-tactical and tactical missiles (surface-to-surface class), and the other for the preparation of antiaircraft missiles. These bases, depending on the plan of the operation, the tasks to be fulfilled, and the grouping of missile troops, are placed 200 to 250 kilometers from the front line, beyond the range of fire of the main body of enemy missile weapons. Sections, which are deployed on the basic axes of operations of missile units, at a distance of

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100 to 120 kilometers from the front line, are detached from the missile-technical bases. Besides, the missile units of the front, located near missile-technical bases, will obtain everything necessary from them, and the missile large units and units of army and front subordination, moved to the border of the army rear area, will obtain everything necessary from the sections of these bases. Besides the missile-technical bases, the front has at its disposal missile fuel dumps which are able to detach their own sections over the terrain. 50X1-HUM

There are sub-units for storage and transport of prepared missiles in the composition of the rear services of combined-arms and tank armies. These subunits are placed at a distance of 40 to 50 kilometers from the front line and are moved in the course of the operation in accordance with the movement of missile units and subunits. Subunits for checking out, storage, and transport of missiles prepared for firing must also be in the composition of missile units and large units.

With the given composition and manner of deployment of rear services units and installations, it is envisaged to carry out rear area support of missile troops in the following manner (sketches 1 and 2). Missiles arriving at the front are unloaded at unloading stations (airfields) and are delivered to missile-technical bases (their sections) where the assembly, checkout, and fueling of missiles are carried out. From here, the missiles prepared for firing are delivered by front, army, and troop transport to missile units and large units of front suborindation, and also to armies. From army subunits the missiles are delivered to missile units (large units) and to the divisions. The delivery of missile fuel is carried out from the front dumps directly to the technical subunits of bases and their sections.

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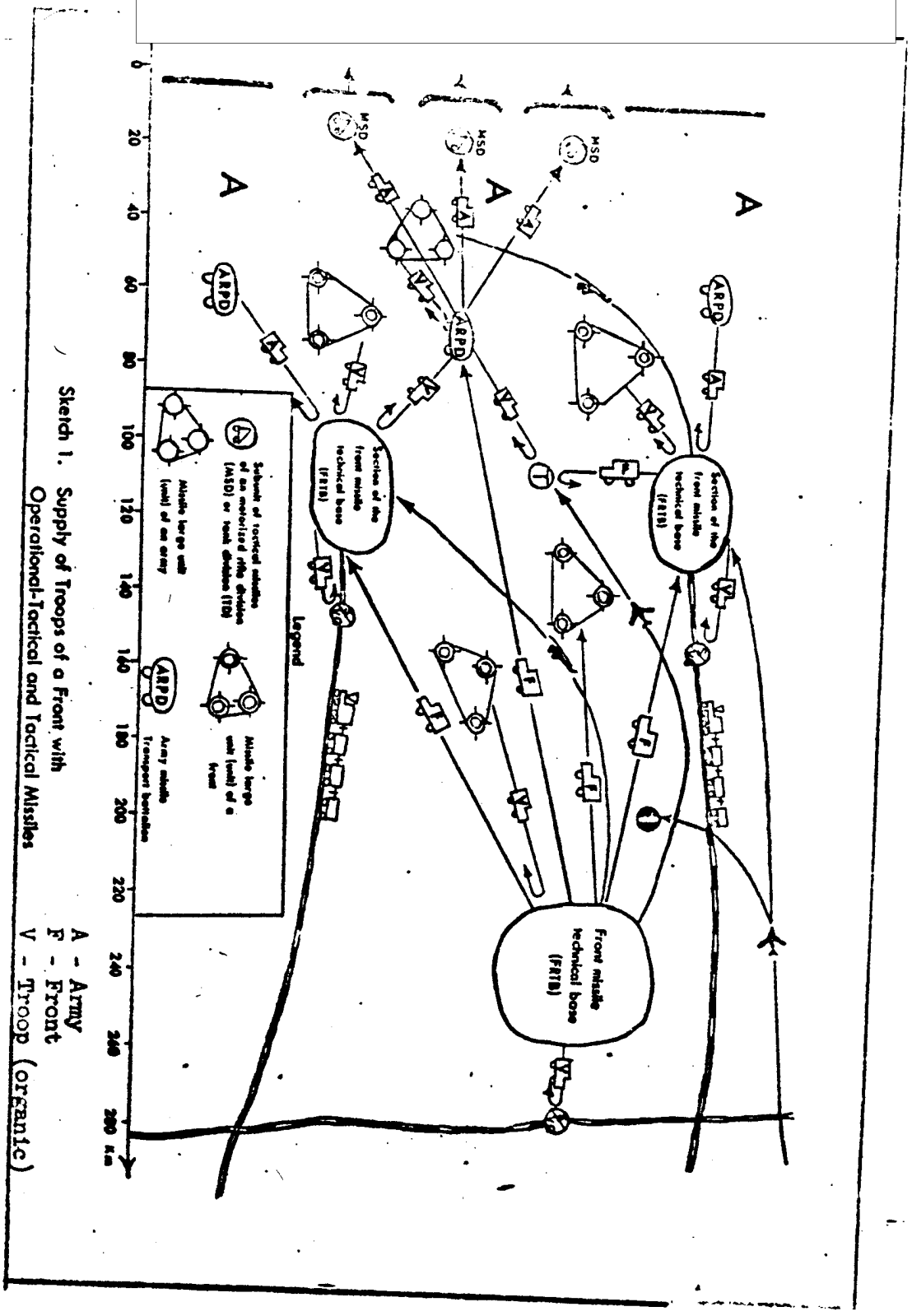

Sketch 1. Supply of Troops of a Front with Operational-Tactical and Tactical Missiles

A - Army
F - Front
V - Troop (organic)

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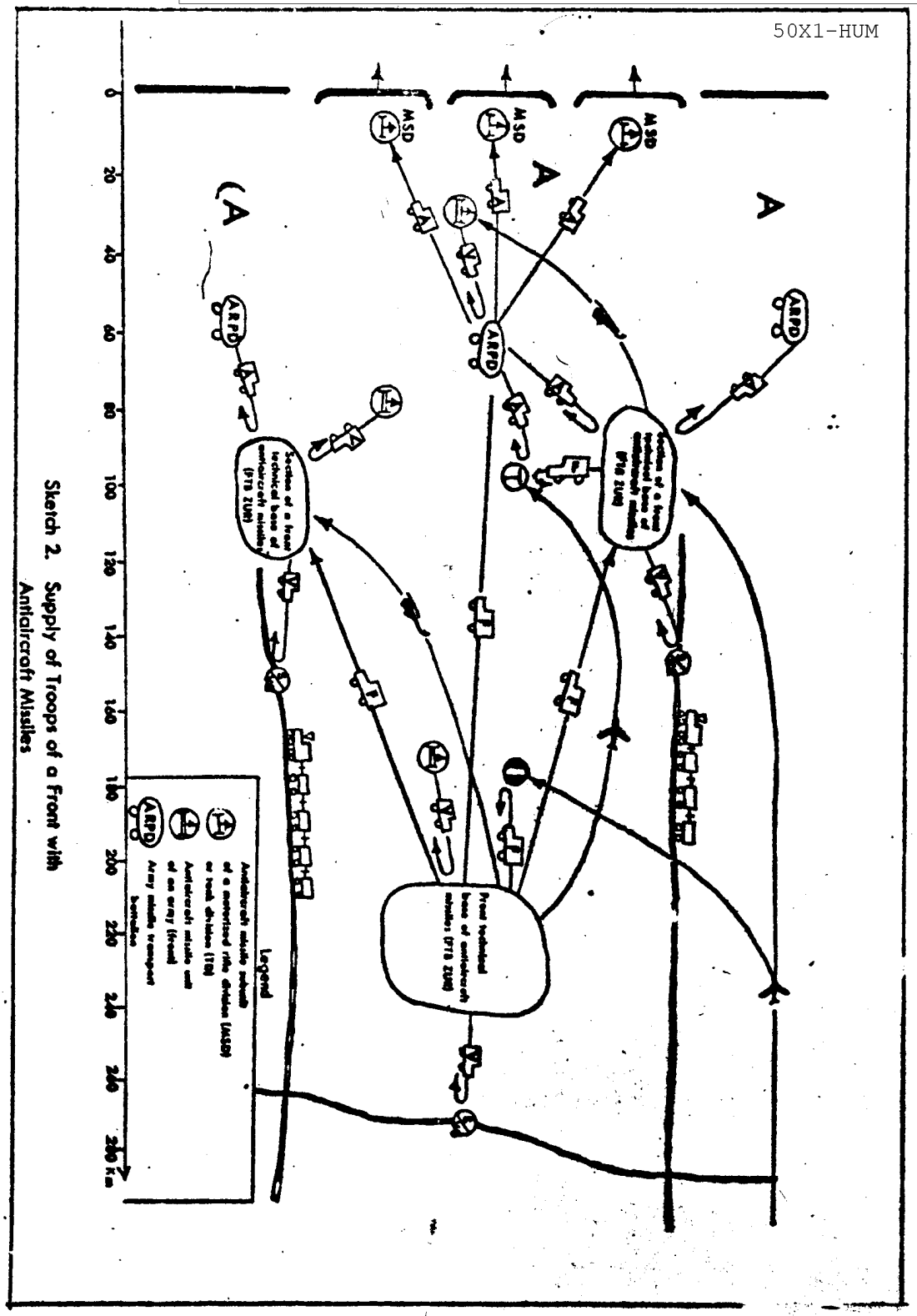

Sketch 2. Supply of Troops of a Front with Antiaircraft Missiles

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It can be considered that the existing system of supply has a number of advantages in comparison with the former. Missile units and large units, released from a number of labor-consuming functions, become more mobile and maneuverable and their commanding officers can, in connection with this, give more attention to questions of combat use of missiles. The possibility of dispersing the stocks of missiles and missile fuel has emerged. 50X1-HUM

At the same time, as has been shown by the experience of exercises, the system of supplying missile troops still has rather considerable shortcomings and requires further improvement. This, first of all, concerns such important aspects of rear area work as the organization of transport of missiles, special charges, and missile fuels, and also the planning of missile troop supply. In essence, the organization of transport and the procedure of planning supply remained unchanged after the reorganization of the rear services of the front and army that has taken place in the interests of missile troop support. We consider that all the prerequisites for the introduction of a new, more advanced principle of planning and transport of everything necessary to the missile troops are present.

First of all, let us examine how the matter stands in regard to the transport of missiles, special charges, and missile fuel. In accordance with the existing system, the chief of the front (army) artillery armament is responsible for the organization of the transport of missiles and special charges by all types of transport, while the deputy commander of the rear services is responsible for the transport of missile fuel. In our opinion, such a method of organization of transport will not ensure the timely transport of missiles, special charges, and missile fuel to the troops. The point is that the chief of artillery armament of the front, having at his disposal, for the delivery of missiles, only special automotive transport, cannot use for these purposes all the other types of transport which are not under his jurisdiction. Uninterrupted transport of missiles, special charges, missile fuel, and other important types of materiel supplies to the troops during operations carried out at a great depth, at high speeds, with sharp and frequent changes in the operational

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situation, and under conditions of heavy enemy action against communications routes and rear services installations, is possible only with the combined use of railroad, motor vehicle, and air transport. Therefore, in our opinion, the deputy troop commander of the front (army) for rear services must have full responsibility for the organization of transport; on the basis of the decision of the troop commander, he will be able to organize the planning of transport and the coordinated operation of the various types of transport taking into consideration the operational-rear area situations which arise. The rear services staff must ensure the direct supervision of the work of special motor vehicle transport units for transport of missiles and missile fuel, and of railroad and air transport, in combination with the directorates of artillery armament, fuel supply, and other services of the front; only by the coordination of their work will the timely delivery of missiles, special charges, and missile fuel to the troops be ensured. With this goal, the deputy troop commander of front (army) for rear services and the staffs of the rear services must organize close coordination of artillery armament and fuel supply services, coordinate plans for the delivery of missiles and missile fuel with the work of the various types of transport, and determine measures for the preparation of a road net and for control of traffic on the roads.

Mostly railroad and motor vehicle transport are used for the delivery of missiles and missile fuel during the preparation of an operation. Missiles, special charges, and missile fuel should be delivered to front missile-technical bases and dumps of missile fuel or to their sections by railroad. Depending on the distance of army rear services units and missile troops from front bases and depots, motor vehicle transport of a front, armies, and missile units and large units can be used for the delivery of missiles to the troops. In the event of disruption of the work of the front's railroads, it is necessary to provide for the duplication of transport by the special automotive transport of the front and for special charges also by air transport. In the course of the operation, the transport of missiles and missile fuel basically must be carried out by front motor vehicle and air transport. Special motor vehicle transport of armies and missile brigades should be used mainly for the delivery

of missiles prepared for firing to the units or directly to the firing positions. In the event of long extension of communication lines, it is necessary to deploy depot and base sections on the basis that their distance from missile large units (units) and the army rear areas, does not exceed 50 to 100 kilometers. With a short distance of separation, the transport of missiles from the deployed base sections can be carried out by front, army and troop motor vehicle transport.

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In modern operations, uninterrupted support of missile troops will depend to a significant degree on the availability of stocks of missiles and missile fuel at the front. Inasmuch as missile weapons will be the decisive means for the attainment of the goals of the operation, we believe that the stocks of missiles and fuel for them at the front must be established at the beginning of the operation, calculated so as to provide the complete needs for the entire operation. These stocks should be echeloned and maintained at all levels where missile troops are employed. It is necessary to take into consideration that the greatest quantity of missiles is expended during the first days of an operation. Therefore, in our opinion, not less than 50 percent of all missile stocks must be located in missile units and large units, 15 to 20 percent in the army rear area, and the rest in the front rear area. Owing to this principle of echelonment, stocks can be moved closer to the troops, make the entire supply system more stable and reliable, and thus afford the commander of the front (army) troops and the commanding officers of combined-arms and missile large units and units the opportunity to render timely influence on the course of a battle and an operation. In the echelonment of missile stocks, it should also be taken into account that in the zone of the front offensive there will be created not one, but several groupings of missile troops, varying in their composition and designation, separated from one another by significant distances. Therefore, it is advisable to establish larger stocks on the axis where the main missile troop grouping is operating.

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For the uninterrupted support of missile troops, it is very important to execute, in good time, maneuver of the stocks. With this goal, units and installations intended for storage of missiles and missile fuel, especially in the troops and armies, must be completely mobile. Missiles must be stored on special carriers (telezhka) (semi-trailers-polupritsep), and missile fuel in fueling vehicles and special tank truck - semi-trailers. In the course of an operation, the stocks of missiles and missile fuel must be constantly replenished. In any case, it is always necessary to have mobile stocks for the troops within the limits of the established norms which will ensure their constant combat readiness.

Correct placement and relocation of rear services units and installations intended for rear area support of missile troops, the organization of their safeguarding, protection, preparation, and employment of railroads and military-motor vehicle roads for the transport of missiles and missile fuel, and also other questions regarding the support of missile troops, can be resolved successfully only with coordinated work of the various services and with unified, centralized control of the rear area. We believe that the rear area support of missile troops is one of the most important measures in the general system of work of the operational rear area. The deputy commander of the front (army) troops for rear services must be one of the basic organizers of rear area support of missile troops.

Some mention should be made of the support of missile subunits of motorized-rifle and tank divisions. Combat operations of these large units proceed at high speeds, with sharp and frequent changes in the situation. The separation of missile subunits included in their composition from army support units, as shown by experience of exercises, may be 70 to 100 kilometers. Under these conditions, it is doubtful that the army, with only its own means, will be able to support the missile subunits of the division in a timely manner. Therefore, small mobile subunits for storage and transport of missiles must be put into the composition of the rear services of the motorized-rifle and tank division.

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Uninterrupted delivery of missiles and missile fuel to the 50X1-HUM by motor vehicle transport depends in many ways on the organization of road support. As experience of exercises has shown, front (army) military-motor vehicle roads prepared for the movement of motor vehicle transport with ordinary freight, basically ensures the passage of motor vehicle columns and echelons with missiles and missile fuel. The volume of shipments by this method of supply constitutes up to 500 vehicles in a twenty-four hour period, and usually does not have substantial influence on the intensity of the movement. Therefore, the delivery of missiles and missile fuel must be carried out, as a rule, on the operating net of military-motor vehicle and controlled roads of the front and armies. It is only necessary that the technical standards of these road (the width of the roadway, the grades, the radii of curves, and also the load capacity of bridges) meet the conditions for the passage of special heavy-duty motor vehicle convoys with missiles. It is necessary for the front (army) road unit forces prepare approaches from the basic military-motor vehicle roads to the rear services units and installations of the missile troops and armies, and also to the missile fuel bases and dumps of the front.

One of the basic missions of the road service will be the organization of uninterrupted traffic and top-priority transit of transport echelons with missiles and missile fuel. The transport of missiles and missile fuel most frequently will be carried out by comparatively small columns and road subunits must be assigned for their escort and ensuring their unhindered passage on the roads, especially the overcoming of various obstructed places.

Special attention is now being given to the medical support of missile troops. This follows from specific conditions of their disposition in the front zone and the work of the personnel with nuclear ammunition and missile fuel. One of the essential features in the work of the medical service of missile units and large units is the necessity to conduct a gamut of measures directed at preventing the contamination of personnel by ionized radiation and by the components of missile fuel. The measures must provide for the execution of control over the work conditions of the personnel during

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the handling of nuclear warheads and missile fuel, and also for the rendering of necessary medical assistance.

It is very important to determine correctly and establish the procedure for planning supply of missile troops. It was carried out in different ways during the exercises conducted. For example, during one of them, the supply of missile troops with missiles and with missile fuel were planned separately. The plan for supplying troops with missiles was worked out by the directorate of artillery armament of the front, while the staff of the front rear services, jointly with the directorate of fuel supply, worked out the plan of missile fuel supply. Such a planning procedure required the staffs and services to conduct very complex work in the coordination of many questions: the stockpiling and echelonment of stocks, the determination of the time and periods of missile and missile fuel delivery, the use of various types of transport, etc. All this reduced the operational efficiency of the rear services work to a considerable degree and not infrequently led to errors in supplying the missile troops.

We believe that the planning of missile troop supply must be carried out in the following manner. In the front (army), it is necessary to work out a general plan of supplying missile troops with missiles, special charges, missile fuel, and other types of materiel supplies. A limited number of officers from the rear services staff, the artillery armament service, the fuel supply and other interested services, should be involved in the working out of this plan, conducting all the work in close coordination with the operational directorate (section) of the front (army) staff.

In our opinion, the following basic questions must be reflected in the plan which is being worked out graphically on a chart with a supplement of the necessary computations:

--the expenditure of missiles, special charges, missile fuel, and other materiel supplies for the missions of the operation;

--the volume and echelonment of missiles, special charges, and missile fuel stocks;

--the capabilities of rear services units and installations of the front for the assembly and servicing of missiles and special charges;

--the organization of transport of missiles, special charges, and missile fuel with the employment of the various types of transport;

--the disposition, and method and periods of movement in the course of an operation, of front missile-technical bases and dumps of missile fuel, and also other rear services units and installations intended for the support of missile troops;

--the organization of control, protection, and defense of missile-technical bases, depots, and other rear area installations.

The plan must be signed by the deputy troop commander for rear services and the commander of the artillery, and after coordination with the staff it must be approved by the troop commander of the front (army). In the development of the general plan of missile troop support, it is expedient for the directorates of artillery armament and fuel supply to work out more detailed plans for supplying troops with missiles, special charges, and missile fuel.

For example, in the plan being worked out by the directorate of front fuel supply, data can be reflected concerning the weight of missile fuel supplies of the front (army), the expenditure of missile fuel by tanks and days of the operation, the norms and echelonment of fuel supplies in units, the army, and in front dumps, a detailed estimate of the delivery of missile fuel to front missile-technical bases and to front depots, and also other questions.

The proposed method of planning, in our opinion, will permit comprehensive consideration of missile troop needs and the most

purposeful organization of their materiel, technical, and medical support.

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The operational efficiency of front (army) rear services work in the comprehensive support of missile troops will be determined in many respects by the reliability and precision of control and the organization of rear area communications. Experience of exercises shows that for the direction of missile troop support, it is advisable to have a special radio net in the communications system of the rear area, permitting the organs of the front (army) rear services to control directly and uninterruptedly the front missile-technical bases and rear services subunits of missile units and large units. Furthermore, a general rear services communications system with top-priority allotment of equipment and channels of communications can be employed for communications with rear services units and installations intended for the support of missile troops.

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The considerations stated concerning the principles and procedure of missile troop support originate from existing views of their combat use and organization with regard to the technical level of missile weapons currently attained. However, the development of technical thought in the realm of missile technology is proceeding so rapidly that we must constantly consider its further improvement.

The simplification of missile design and the increase in accuracy of their use, not only with special but also with conventional charges, can be expected soon. All this will lead to a further extensive saturation of large units and operational formations with missile weapons, to a change in the organizational structure of the missile troops, and also to an increase in the expenditure of missiles in battle and in an operation. The feasibility of performing the assembly of missiles in the deep rear and transporting them in ready condition over a great distance will arise. Then the support

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of missile troops included in the front and army composition can be organized along the existing system of supply of combined-arms units and large units with standard types of materiel supplies, taking into consideration only the specific peculiarities of storing, transporting, and servicing missiles.

In conclusion, it should be noted that the manner and methods of missile troop support examined in the article require further detailed study and testing in exercises.

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